

DOCUMENT RESUME

ED 194 838

CG 014 779

AUTHOR Brunson, Bradford I.
TITLE The Type A Behavior Pattern and Reactions to Uncontrollable Events.
PUB DATE Sep 80
NOTE 13p.: Paper presented at the Annual Convention of the American Psychological Association (88th, Montreal, Quebec, Canada, September 1-5, 1980).
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adults: *Attribution Theory: Behavior Patterns: *Cognitive Processes: *Coping: Feedback: *Locus of Control: *Performance Factors: *Problem Solving: Psychological Characteristics: Responses: Self Concept: Stress Variables

ABSTRACT

Systematic investigations have verified the existence of a number of behavioral manifestations of the "Type A" behavior pattern. For example, brief exposure to salient uncontrollable stress has led to enhanced performance by Type A's on a subsequent task, whereas prolonged exposure has led to performance deterioration. The ongoing experiences of Type A's were compared with those of Type B's during prolonged exposure to unsolvable concept-formation problems. Subjects were asked to verbalize their thoughts during the experimental tasks. Type A's and Type B's differed dramatically in their self-reported attributions for success and failure. Type A's began to state and use ineffectual coping strategies when confronted with failure: they attributed their failures to stupidity and lack of ability, and became increasingly frustrated and annoyed with themselves. In contrast, Type B's emphasized task difficulty as playing a critical role in their failure and also made attributions to experimenter factors and chance. Findings lend empirical support to the theoretical notion that attributions to stable, internal qualities are likely to lead to helplessness and performance deterioration. (Author/CS)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

Presentation Proposal Cover Sheet

1980 APA Annual Convention

1. Title: The Type A Behavior Pattern and Reactions to Uncontrollable Events.

2. Principal author: BRADFORD I. BRUNSON, Kansas State University

Mailing address: Anderson Hall 118

Kansas State University

Manhattan, Kansas 66506

3. Graduate Student Member of APA

Sponsor: Dr. Karen A. Matthews, Ph.D.

Department of Psychiatry

University of Pittsburgh

Pittsburgh, Pennsylvania

4. Division: Personality and Social Psychology

5. Type of Presentation: Poster Format

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

STATEMENT OF PURPOSE

SYSTEMATIC INVESTIGATIONS BY GLASS AND HIS COLLEAGUES HAVE VERIFIED THE EXISTENCE OF A NUMBER OF BEHAVIORAL MANIFESTATIONS OF THIS BEHAVIOR PATTERN (CF. GLASS, 1977). OF THESE, GLASS (1977) HAS SHOWN THAT BRIEF EXPOSURE TO SALIENT UNCONTROLLABLE STRESS LEADS TO ENHANCED RESPONDING ON A SUBSEQUENT TASK BY A'S, WHEREAS PROLONGED EXPOSURE LEADS TO DEPRESSED RESPONDING BY A'S ON A SUBSEQUENT TASK. THIS STUDY DIRECTLY EXAMINED THE ONGOING EXPERIENCE OF TYPE A'S AND TYPE B'S DURING UNCONTROLLABLE STRESS OF TWO SALIENCE LEVELS. THE OBJECTIVES OF THE STUDY WERE TO CLARIFY (1) HOW TYPE A'S AND TYPE B'S APPRAISE UNCONTROLLABLE STRESS; (2) HOW THE SALIENCE OF THE STRESSFUL EVENT AFFECTS THEIR EXPERIENCE; AND (3) WHETHER THE PROCESSES PROPOSED BY THE RE-FORMULATED MODELS OF LEARNED HELPLESSNESS TYPIFY THOSE STUDENTS WHO SHOW EVIDENCE OF DETERIORATING PERFORMANCE.

PROCEDURE

THE PROCEDURE AND THE SALIENCE MANIPULATION WERE SIMILAR TO THOSE OF STUDIES BY DIENER AND DWECK (1978) AND GLASS (1977, CHAPTS. 8, 9). TWENTY TYPE A AND 20 TYPE B COLLEGE STUDENTS WERE ASKED TO SOLVE FOUR SOLUBLE AND FOUR INSOLUBLE LEVINIAN (LEVINE, 1966) CONCEPT FORMATION PROBLEMS. THE ORDER OF THE PROBLEMS PERMITTED MONITORING OF THE SUBJECTS' HYPOTHESIS TESTING STRATEGIES BEFORE AND AFTER FAILURE. AT THE SAME TIME, SUBJECTS WERE ASKED TO VERBALIZE ALL THOUGHTS, INCLUDING TASK-IRRELEVANT ONES. THIS THINKING-OUT-LOUD PROCEDURE PERMITTED MONITORING OF HOW SUBJECTS WERE APPRAISING THEIR CIRCUMSTANCES. PREVIOUS RESEARCH HAS REVEALED THAT VERBALIZATION (LEVEL II IN ERICSSON & SIMON, 1979 TERMS) CONCURRENT WITH PROBLEM SOLVING DOES NOT ALTER THE COURSE AND STRUCTURE OF THOUGHT PROCESSES, THEREBY CHANGING PERFORMANCE OUTCOMES ON PROBLEMS LIKE THE LEVINIAN CONCEPT FORMATION PROBLEMS (SEE ERICSSON & SIMON, 1979 FOR A THOROUGH REVIEW; CF. DIENER & DWECK, 1978). SALIENCE WAS MANIPULATED BY A PROCEDURE NEARLY IDENTICAL TO THAT USED BY GLASS (1977) IN A PREVIOUS INVESTIGATION OF HELPLESSNESS OF A'S AND B'S FOLLOWING FAILURE TO CONTROL. THUS, IT WAS POSSIBLE IN THE PRESENT STUDY TO ANALYZE THE DIFFERENCES IN THE NATURE, RELATIVE FREQUENCY, AND TIMING OF ACHIEVEMENT-RELATED COGNITIONS BY TYPE A AND TYPE B COLLEGE STUDENTS DURING HIGH AND MODERATE SALIENT INSOLUBLE PROBLEMS.

RESULTS

THERE WERE NO SUBSTANTIAL PERFORMANCE DIFFERENCES AMONG GROUPS PRIOR TO THE FAILURE MANIPULATION IN EASE OF TRAINING, ABILITY TO WORK THE PROBLEMS, OR TYPE OF STRATEGIES USED. IN CONTRAST, THERE WERE LARGE DIFFERENCES AFTER THE FAILURE MANIPULATION WAS INTRODUCED. OF MAJOR INTEREST IS THE CHANGE IN STRATEGY USE ACROSS FAILURE TRIALS. TABLE 1 SHOWS THE NUMBER OF SUBJECTS IN EACH GROUP WHOSE STRATEGIES DETERIORATED, STAYED THE SAME, OR INCREASED IN SOPHISTICATION OVER THE LAST SIX PROBLEMS. AS TABLE 1 REVEALS, TYPE A'S IN THE HIGH SALIENCE CONDITION AND TYPE B'S IN MODERATE SALIENCE CONDITION SHIFTED TO USING LESS SOPHISTICATED TECHNIQUES ACROSS PROBLEMS. IN ORDER TO ANALYZE THESE DATA, SCORE VALUES WERE ASSIGNED OF 3 IF SUBJECTS' HYPOTHESIS TESTING IMPROVED, 2 IF IT REMAINED THE SAME AND 1 IF IT DETERIORATED DURING FAILURE. THE ANALYSIS OF VARIANCE YIELDED A SIGNIFICANT TYPE BY SALIENCE INTERACTION TERM, $F(1, 36) = 18.4, p < .001$. INTERNAL CONTRASTS CONFIRMED THAT WHILE HIGH SALIENCE A'S AND MODERATE SALIENCE B'S TENDED TO DIFFER FROM ONE ANOTHER, THEY ALSO TENDED TO DIFFER FROM THE OTHER TWO GROUPS.

IN ORDER TO APPRECIATE THE SPECIFIC PATTERN OF PERFORMANCE FOLLOWING FAILURE, ONE MUST EXAMINE THE PROBLEM BY PROBLEM CHANGE. TABLE 2 PRESENTS THE PERCENTAGE OF TYPE A'S AND B'S IN HIGH AND MODERATE SALIENCE CONDITIONS EXHIBITING EACH TYPE OF STRATEGY OF STEROTYPE ON THE FOUR TEST PROBLEMS. AS CAN BE SEEN FROM TABLE 2, HIGH SALIENCE A'S SHOWED A PROGRESSIVE DECREASE IN THE USE OF LEGITIMATE STRATEGIES WITH AN ATTENDANT INCREASE IN INEFFECTUAL RESPONSES. IN FACT, BY THE END OF THE FOURTH FAILURE PROBLEM, 60% OF THE HIGH SALIENCE A'S HAD ABANDONED USEFUL STRATEGIES. MODERATE SALIENCE B'S ALSO DEMONSTRATED INCREASED USE OF INEFFECTUAL STRATEGIES BY THE SECOND FAILURE PROBLEM. HOWEVER, ON THE THIRD AND FOURTH PROBLEMS THE SITUATION CHANGED SUCH THAT ONLY 10% OF MODERATE SALIENCE B'S WERE USING INEFFECTUAL STRATEGIES ON THE LAST FAILURE PROBLEM. HIGH SALIENCE B'S AND MODERATE SALIENCE A'S BEHAVED IN A SIMILAR MANNER AND DID NOT USE INEFFECTUAL STRATEGIES ON THE THIRD AND FOURTH FAILURE PROBLEMS. THE RESULTS PRESENTED THUS FAR ARE CONSISTENT WITH PREVIOUS RESEARCH IN WHICH THE MARKED PERFORMANCE DIFFERENCES BETWEEN A'S AND B'S ARE DEPENDENT ON THE SALIENCE OF THE UNCONTROLLABILITY FEEDBACK. HOWEVER, THE FULL EXTENT OF THESE DIFFERENCES IS STILL UNCLEAR UNLESS WE EXAMINE THE COGNITIVE CONCOMITANTS OF THE PERFORMANCE CHANGES AS WELL.

BECAUSE THE SUBJECTS' VERBALIZATIONS WERE CODED THROUGHOUT THE EXPERIMENT, IT WAS FEASIBLE TO EXAMINE WHETHER SUBJECTS IN THE FOUR GROUPS DURING TRAINING IN THE SOLUBLE PROBLEMS DIFFERED IN ANY SYSTEMATIC WAY. ANALYSES OF THE VERBALIZATIONS DURING THE THIRD AND FOURTH PROBLEM REVEALED SEVERAL DIFFERENCES. CONSISTENT WITH A's' ACHIEVEMENT-STRIVING, THEY MADE MORE STATEMENTS OF USEFUL TASK STRATEGY THAN DID B's' ($M_s = 3.8$ vs. 1.9), $F(1, 36) = 4.9$, $p < .05$. BOTH HIGH SALIENCE A's' ($M = .8$) AND MODERATE SALIENCE B's' ($M = .6$) MADE MORE STATEMENTS INDICATING AWARENESS OF THE INCREASED DIFFICULTY OF THE BLANK TRIAL PROCEDURE THAN DID MODERATE SALIENCE A's' AND HIGH SALIENCE B's' (BOTH $M_s = .25$). THIS WAS CONFIRMED BY A SIGNIFICANT SALIENCE BY TYPE INTERACTION TERM, $F(1, 36) = 5.3$, $p < .05$. HOWEVER, ONLY THE MODERATE SALIENCE B's' ALSO REMARKED THAT THEY ENJOYED THE TASK CHALLENGE, ($M = 1.4$ vs. M_s OF $.1$, $.2$, $.4$). THIS WAS CONFIRMED BY TWO SIGNIFICANT MAIN EFFECTS, $F(1, 36) = 9.5$, $p < .01$ FOR SALIENCE, AND $F(1, 36) = 4.2$, $p < .05$ FOR TYPE, AND THE APPROPRIATE INDIVIDUAL CONTRASTS, ALL IS $(36) > 4.0$, $p_s < .01$.

A NUMBER OF STRIKING DIFFERENCES EMERGED WHEN THE INSOLUBLE TEST PROBLEMS WERE INTRODUCED. TABLE 3 PRESENTS THE MEAN NUMBER OF STATEMENTS IN EACH VERBALIZATION CATEGORY FOR THE FOUR GROUPS AND THE RESULTS OF THE ANALYSES OF VARIANCE OF EACH CATEGORY. AS TABLE 3 REVEALS, TYPE A's CONTINUED TO STATE MORE USEFUL TASK STRATEGIES THAN DID B's. AT THE SAME TIME, HOWEVER, THE HIGH SALIENCE A's ALSO BEGAN TO STATE INEFFECTUAL STRATEGIES. RECALL THAT DURING FAILURE PROBLEMS, THIS GROUP HAD ALSO SHIFTED TO USING INAPPROPRIATE STRATEGIES THAT IGNORED EXPERIMENTER'S FEEDBACK AND WOULD NOT LEAD TO PROPER SOLUTION UNDER NORMAL CONDITIONS. FURTHERMORE, HIGH SALIENCE A's ATTRIBUTED THE RESPONSIBILITY FOR THEIR FAILURE PRIMARILY TO A LACK OF ABILITY AND SOMEWHAT TO TASK DIFFICULTY. IN ADDITION, HIGH SALIENCE A's BEGAN TO INCREASINGLY EXPRESS NEGATIVE AFFECTIVE STATEMENTS. THEIR UNHAPPINESS WITH THE EXPERIMENTAL SITUATION WAS CHARACTERIZED BY STATEMENTS SUCH AS: "THIS IS REALLY STARTING TO GET TO ME"; "THIS IS TAKING A LONG TIME"; "I'M NOT SURE THIS IS WORTH ALL THE HASSLE FOR A FEW POINTS"; "I'M REALLY GETTING PERTURBED", IN OTHER WORDS, THE A's WERE FRUSTRATED AND ANNOYED.

CONVERSELY, MODERATE SALIENCE B's DID NOT MAKE STATEMENTS OF INEFFECTUAL APPROACHES TO THE TASK. THEY DID BEGIN TO MAKE SOME STATEMENTS ATTRIBUTING THEIR FAILURE ON THE INSOLUBLE PROBLEMS TO THEIR OWN ABILITY, BUT AS THE FAILURE EXPERIENCE CONTINUED, THEY ATTRIBUTED THEIR FAILURE MORE SO TO THE DIFFICULTY OF THE TASK. MODERATE SALIENCE B's EXPRESSED EXTREME UNHAPPINESS WITH THE TASK SITUATION BY MAKING NEGATIVE AFFECTIVE STATEMENTS SUCH AS: "I SURE WISH THIS WOULD GET OVER WITH"; "THIS IS SORT OF BORING"; "THIS ISN'T MUCH FUN"; "THIS IS RIDICULOUS". HOWEVER, THIS UNHAPPINESS WAS ATTENUATED BY SOME OF THEIR POSITIVE PROGNOSTIC STATEMENTS SUCH AS: "I'VE ALMOST

GOT IT FIGURED OUT NOW"; "I'M SURE I'LL GET IT"; "I'LL GET THE NEXT ONE FOR SURE". IN SUM, THE COGNITIVE CONCOMITANTS OF THE PERFORMANCE CHANGES REVEALED INTRIGUING, RELIABLE DIFFERENCES AMONG THE FOUR GROUPS IN THEIR EXPERIENCES OF OBJECTIVE NONCONTINGENCY. IT IS ALSO OF INTEREST, HOWEVER, TO EXAMINE HOW THE SUBJECTS DESCRIBED THEIR EXPERIENCE AT THE CONCLUSION OF THE EXPERIMENTS.

GENERALLY, FROM THE POST-EXPERIMENTAL QUESTIONNAIRE IT APPEARS THAT BY AND LARGE THERE IS AN ABSENCE OF IMPORTANT DIFFERENCES IN HOW A'S AND B'S DESCRIBED THE EXPERIMENTAL MANIPULATIONS. THIS ABSENCE OF SIGNIFICANT DIFFERENCES IS CONSISTENT WITH PREVIOUS POSTEXPERIMENTAL QUESTIONNAIRE FINDINGS.

ON THE OTHER HAND, A'S AND B'S DID DIFFER DRAMATICALLY IN THEIR SELF-REPORTED ATTRIBUTIONS FOR SUCCESS AND FAILURE DURING THE EXPERIMENT. THE ATTRIBUTION DATA WERE ANALYZED BY A $2 \times 2 \times 2$ (TYPE $\times$ SALIENCE $\times$ SUCCESS-FAILURE) MULTIVARIATE ANALYSIS OF VARIANCE. THIS ANALYSIS YIELDED TWO SIGNIFICANT EFFECTS USING WILKS' CRITERION: TYPE, $E(5,32) = 9.99$, $p < .001$, AND SUCCESS-FAILURE, $E(5,32) = 3.62$, $p < .02$. HENCE, AN EXAMINATION OF THE APPROPRIATE UNIVARIATE F-RATIOS WAS PERMITTED. FOR TYPE, THERE WERE SIGNIFICANT MAIN EFFECTS ON EACH OF THE FIVE ATTRIBUTION CATEGORIES, ALL $E_s(1, 36) > 14.0$, $p_s < .01$, SUCH THAT TYPE A'S ATTRIBUTED THEIR PERFORMANCE OUTCOMES TO INTERNAL QUALITIES OF ABILITY AND EFFORT, WHEREAS B'S EMPHASIZED EXTERNAL QUALITIES OF CHANCE, TASK DIFFICULTY, AND THE EXPERIMENTER. IT IS IMPORTANT TO NOTE THAT THIS PATTERN OF RESPONSES DID NOT VARY WITH THE SALIENCE OF THE UNCONTROLLABLE FEEDBACK, ALTHOUGH THEIR ATTRIBUTIONS STATED DURING THE TASK CLEARLY DID SO.

FOR SUCCESS-FAILURE, THERE WERE TWO SIGNIFICANT EFFECTS: ABILITY, $E(1, 36) = 7.15$, $p < .05$, AND TASK DIFFICULTY, $E(1, 36) = 10.80$, $p < .01$. WHILE THERE WAS A GENERAL TENDENCY FOR SUBJECTS TO SHIFT THEIR ATTRIBUTIONS OF ABILITY DURING SUCCESS PROBLEMS TO TASK DIFFICULTY DURING FAILURE PROBLEMS, A PERUSAL OF TABLE 4 REVEALS THAT THIS WAS PREDOMINATELY DUE TO THE B'S. AS' ATTRIBUTIONS TO ABILITY AND EFFORT WERE STABLE ACROSS SUCCESS AND FAILURE.

CONCLUSION

THE PRESENT FINDINGS SUGGEST THAT THERE ARE SUBSTANTIAL, RELIABLE DIFFERENCES BETWEEN A'S AND B'S IN HOW THEY UNDERSTAND, COPE WITH, AND LATER DESCRIBE UNCONTROLLABLE EVENTS. THESE DIFFERENCES VARY SYSTEMATICALLY WITH THE SALIENCE OF FAILURE FEEDBACK. HIGH SALIENCE A'S BEGAN TO STATE AND USE INEFFECTUAL COPING STRATEGIES WHEN THEY WERE CONFRONTED WITH FAILURE, DESPITE THE FACT THAT TO SOME EXTENT THEY HAD BEEN INNOCULATED WITH AN INITIAL SUCCESS EXPERIENCE. ALTHOUGH THE TASK DIFFICULTY LEVEL WAS APPARENTLY INCREASED FROM THE SOLUBLE TO THE INSOLUBLE PROBLEMS, WHICH HIGH SALIENCE A'S DID MENTION, THEY ALSO POINTED OUT THEIR STUPIDITY AND LACK OF ABILITY ON DISCRIMINATION PROBLEMS AS ACCOUNTING FOR THEIR FAILURE TO DO WELL. AT THE CONCLUSION OF THE TASK IN ADDITION, THEY REMARKED THAT THEY HAD NOT TRIED HARD ENOUGH. THROUGHOUT THE FAILURE EXPERIENCE, THEY BECAME INCREASINGLY FRUSTRATED AND ANNOYED WITH THEMSELVES.

IN SOME WAYS, MODERATE SALIENCE B'S WERE SIMILAR TO THE HIGH SALIENCE A'S. THEY TOO COMMENTED ON THE DIFFICULTY OF THE INSOLUBLE PROBLEMS AND TO A LESSER EXTENT ON THEIR LACK OF ABILITY TO SOLVE THEM. THEY TOO WERE UPSET WITH THE SITUATION. IN PARTICULAR, THEY FOUND IT INCREASINGLY BORING AND WANTED TO LEAVE. YET, IN CONTRAST TO HIGH SALIENCE A'S, B'S CONTINUED TO EMPHASIZE TASK DIFFICULTY AS PLAYING A CRITICAL ROLE IN THEIR FAILURE AND ALSO MENTIONED CHANCE AND EXPERIMENTER FACTORS AS PLAYING A ROLE. MORE IMPORTANTLY, THEIR PERCEPTIONS OF POTENT EXTERNAL FACTORS ACCOUNTING FOR FAILURE AND THEIR OWN UNHAPPINESS DID NOT LEAD THEM TO USE OR TO STATE INAPPROPRIATE HYPOTHESIS TESTING STRATEGIES. IT IS TRUE, HOWEVER, THAT THEY SHIFTED TO SOMEWHAT LESS EFFICIENT STRATEGIES, BUT THIS SHIFT APPEARS TO BE MORE INDICATIVE OF THEIR SUPERIOR EFFORTS DURING SUCCESS THAN OF THEIR POOR PERFORMANCE DURING FAILURE. IN FACT, THEY WERE SOMEWHAT OPTIMISTIC THAT THEY WOULD AGAIN SUCCEED IN THE FUTURE.

THE RECENT REVISIONS OF THE LEARNED HELPLESSNESS MODEL HAVE EMPHASIZED THE IMPORTANCE OF ATTRIBUTIONAL, COGNITIVE, AND MOTIVATIONAL FACTORS THAT MODERATE THE PERCEPTION OF LOSS OF CONTROL AND THE GENERALIZATION OF THE EXPECTANCY OF NO CONTROL TO FUTURE EVENTS (ABRAMSON, SELIGMAN, & TEASDALE, 1978; MILLER & NORMAN, 1979; ROTH 1980). IN PARTICULAR, THERE IS CONSIDERABLE AGREEMENT THAT ATTRIBUTIONS TO STABLE, INTERNAL QUALITIES ARE LIKELY TO LEAD TO HELPLESSNESS DEFICITS. AND, THE PRESENT DATA DO PROVIDE SUPPORT FOR THESE INTERVENING PROCESSES IN PRODUCING DETERIORATED PERFORMANCE. THOSE SUBJECTS WHO BEGAN TO USE INEFFECTUAL STRATEGIES THAT COULD NOT REACH SOLUTION EVEN IF ONE WERE FEASIBLE WERE ALSO THE ONES WHO ATTRIBUTED THEIR PERFORMANCE TO A LACK OF ABILITY AND WERE FRUSTRATED AND ANNOYED.

ALTHOUGH THIS EXPERIMENT WAS NOT DESIGNED TO EXAMINE THE PERFORMANCE DEFICITS DUE TO A GENERALIZATION OF A LACK OF CONTROL ON ONE TASK TO OTHER TASKS THAT ARE IN FACT CONTROLLABLE, THE FINDINGS DO PERMIT A REASONABLE CONJECTURE ON THIS ISSUE. IT APPEARS THAT HIGH SALIENCE A's WOULD BE MOST LIKELY TO EXPERIENCE SUBSEQUENT PERFORMANCE DEFICITS. THEIR PERFORMANCE HAD ALREADY BEGUN TO DETERIORATE DURING THE EQUIVALENT OF INSOLUBLE PRE-TREATMENT TRIALS IN THE STANDARD LEARNED HELPLESSNESS PARADIGM. FURTHERMORE, THEIR INEFFECTUAL EFFORTS WERE ACCOMPANIED BY ATTRIBUTIONS TO A LACK OF ABILITY DURING AND AFTER THE FAILURE EXPERIENCE. TO THE EXTENT THAT THE ABILITY ATTRIBUTIONS WERE NOT SPECIFIC TO THE LEVINIAN DISCRIMINATION PROBLEMS, THE BELIEF OF HAVING LITTLE ABILITY SHOULD HAVE TRANSFERRED TO OTHER TASKS AND RESULTED IN POOR SUBSEQUENT PERFORMANCE. IN SUM, IT WOULD BE EXPECTED THAT A PATTERN OF FINDINGS SIMILAR TO THAT REPORTED BY GLASS (1977) WOULD BE FOUND: WITH REPEATED FAILURE TO CONTROL SALIENT UNCONTROLLABLE EVENTS, TYPE A's GIVE UP AND ACT HELPLESS.

ON THE OTHER HAND, IT IS UNCLEAR WHETHER WE WOULD HAVE FOUND PRECISELY WHAT GLASS (1977) REPORTED ABOUT B's. THAT IS, B's PERFORM POORLY FOLLOWING MODERATELY SALIENT FAILURE IN SEVERAL STUDIES (GLASS, 1977; KRANTZ, GLASS, & SNYDER, 1974). THE DATA INDICATE THAT MODERATE SALIENCE B's DID NOT USE OR STATE INEFFECTUAL STRATEGIES THAT COULD NOT REACH SOLUTIONS SHOULD ONE HAVE BEEN FEASIBLE. FURTHERMORE, THEY ATTRIBUTED THEIR FAILURE MAINLY TO EXTERNAL OR SITUATIONAL FACTORS DURING AND AFTER THE EXPERIENCE WHICH ARE UNLIKELY TO GENERALIZE TO CONTROL OF OTHER TASK OUTCOMES. IN SUM, THIS DATA PROVIDES NO REASON TO BELIEVE THAT B's WOULD BE HELPLESS ON A SUBSEQUENT TASK.

IT SEEMS LIKELY THEN THAT THE DEFICITS IN PERFORMANCE OF A's AND B's IN PREVIOUS STUDIES ARE THE OUTCOMES OF DIFFERENT PROCESSES. MORE SPECIFICALLY, IT SEEMS REASONABLE TO CONCLUDE THAT A's DO EXPERIENCE HELPLESSNESS AFTER REPEATED EFFORTS TO EXERT ENVIRONMENTAL CONTROL OVER SALIENT EVENTS AND WE ARE IN ACCORD WITH GLASS'S NOTION THAT PATTERN A REPRESENTS A RESPONSE STYLE AIMED AT EXERTING AND MAINTAINING ENVIRONMENTAL CONTROL. WHAT IS CURIOUS ABOUT THIS RESPONSE STYLE IS THE LONG TERM COST. IT APPEARS THAT REPEATED EFFORTS TO CONTROL AN UNCONTROLLABLE EVENT MAY LEAD TO THE EVENTUAL RELINQUISHMENT OF CONTROL, WHICH CAN GENERALIZE TO EVENTS THAT ARE IN FACT CONTROLLABLE. THUS, PATTERN A MAY NOT BE AN ADAPTIVE MODE OF RESPONDING IN THE LONG RUN. NOT ONLY IS IT ASSOCIATED WITH ELEVATED CORONARY RISK, BUT THE EXCESSIVE STRUGGLE OF TYPE A's TO CONTROL AND MASTER THEIR ENVIRONMENT MAY ACTUALLY CAUSE THEM TO INAPPROPRIATELY RELINQUISH CONTROL.

TABLE 1
 NUMBER OF TYPE A AND TYPE B SUBJECTS WHOSE HYPOTHESES TESTING STRATEGY
 IMPROVED, REMAINED THE SAME, OR DETERIORATED DURING FAILURE

	<u>TYPE A</u>		<u>TYPE B</u>	
	<u>HIGH SALIENCE</u>	<u>MODERATE SALIENCE</u>	<u>HIGH SALIENCE</u>	<u>MODERATE SALIENCE</u>
IMPROVED	0	2	2	0
SAME	2	8	6	6
DETERIORATED	8	0	2	4

TABLE 2
PERCENTAGE OF TYPE A AND TYPE B SUBJECTS
EXHIBITING EACH TYPE OF STRATEGY

GROUP	HIGH SALTENCE INSOLUBLE PROBLEMS				MODERATE SALTENCE INSOLUBLE PROBLEMS			
	1	2	3	4	1	2	3	4
TYPE A								
USEFUL STRATEGIES								
FOCUSING	0	0	0	0	0	0	0	0
DIMENSION CHECKING	80.0	50.0	30.0	20.0	90.0	70.0	80.0	60.0
HYPOTHESIS CHECKING	10.0	40.0	50.0	20.0	10.0	20.0	20.0	40.0
INEFFECTUAL STRATEGIES								
STIMULUS PREFERENCE	0	10.0	10.0	40.0	0	10.0	0	0
POSITION ALTERNATION	0	0	0	0	0	0	0	0
POSITION PRESERVATION	10.0	0	10.0	20.0	0	0	0	0
TYPE B								
USEFUL STRATEGIES								
FOCUSING	0	0	0	0	0	0	0	0
DIMENSION CHECKING	90.0	60.0	70.0	80.0	70.0	20.0	70.0	60.0
HYPOTHESIS CHECKING	0	40.0	30.0	20.0	20.0	50.0	20.0	30.0
INEFFECTUAL STRATEGIES								
STIMULUS PREFERENCE	10.0	0	0	0	10.0	30.0	10.0	10.0
POSITION ALTERNATION	0	0	0	0	0	0	0	0
POSITION PRESERVATION	0	0	0	0	0	0	0	0

TABLE 3
MEAN NUMBER OF STATEMENTS
IN EACH VERBALIZATION CATEGORY

VERBALIZATION CATEGORY	TYPE A		TYPE B		EFFECT	F-RATIO
	SALIENCE: HIGH	MODERATE	HIGH	MODERATE		
USEFUL TASK STRATEGY	12.8	9.2	3.6	6.7	TYPE	4.2*
INEFFECTUAL TASK STRATEGY	1.7 ^A	.5 ^B	.2 ^B	.1 ^B	TYPE	10.4**
					SALIENCE	4.2*
ABILITY ATTRIBUTION	2.1 ^A	1.4 ^A	.4 ^B	1.7 ^A	TYPE X	6.7*
					SALIENCE	
					TYPE	5.7*
TASK DIFFICULTY ATTRIBUTION	1.4 ^{A,B}	.7 ^A	.7 ^A	2.0 ^B	TYPE X	
					SALIENCE	5.3*
STATEMENTS OF POSITIVE AFFECT	.5	.7	.2	1.6	———	———
STATEMENTS OF NEGATIVE AFFECT	4.7 ^{A,B}	2.2 ^A	2.9 ^A	6.5 ^B	TYPE X	
					SALIENCE	6.3*
POSITIVE PROGNOSTIC STATEMENT	.8 ^{A,B}	.4 ^A	.2 ^A	1.1 ^B	TYPE X	
					SALIENCE	4.4*

NOTE: DIFFERENT LETTERS DENOTE THE MEANS THAT ARE SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER BASED ON THE MEAN SQUARE ERROR TERM FROM THE OVERALL ANALYSIS.

* $p < .05$

** $p < .01$

TABLE 4
MEANS FOR SELF- REPORTED ATTRIBUTIONS

		ABILITY	EFFORT	CHANCE	TASK DIFFICULTY	EXPERIMENTER
HIGH SALIENCE A's:	SUCCESS	50.0	30.0	7.5	8.0	4.5
	FAILURE	49.5	30.5	5.5	10.0	4.5
MODERATE SALIENCE A's:	SUCCESS	42.0	27.5	10.5	13.0	7.0
	FAILURE	41.5	25.0	11.5	16.5	5.5
HIGH SALIENCE B's:	SUCCESS	31.3	15.1	28.3	16.9	8.4
	FAILURE	17.4	17.1	30.8	25.3	9.4
MODERATE SALIENCE B's:	SUCCESS	30.4	20.8	20.5	19.2	9.1
	FAILURE	23.5	15.9	25.0	24.5	11.1

References

- Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 87, 49-74.
- Diener, C.I., & Dweck, C.S. An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. Journal of Personality and Social Psychology, 1978, 36, 451-462.
- Ericsson, K.A., & Simon, H.A. Thinking-aloud protocols as data. (C.I.P. Working Paper No. 397). Pittsburgh: Carnegie-Mellon University, Department of Psychology, 1979.
- Glass, D.C. Behavior patterns, stress, and coronary disease. Hillsdale, New Jersey: L. Erlbaum, 1977.
- Levine, M. Hypothesis behavior by humans during discrimination learning. Journal of Experimental Psychology, 1966, 71, 331-338.
- Krantz, D.S., Glass, D.C., & Snyder, M.L. Helplessness, stress level, and the coronary-prone behavior pattern. Journal of Personality and Social Psychology, 1974, 10, 284-300.
- Miller, I.W., & Norman, W.H. Learned helplessness in humans: A review and attribution-theory model. Psychological Bulletin, 1979, 86, 93-118.
- Roth, S. Learned helplessness in humans: A review. Journal of Personality, ~~in press~~ 1980, 48, 103-133.